

1996 AUTOMOTIVE TECHNOLOGY DEVELOPMENT CUSTOMERS' COORDINATION MEETING



TITLE: LITHIUM ION BATTERIES FOR PNGV APPLICATIONS

SESSION: AUTOMOTIVE R&D POSTER SESSION

OCTOBER 30, 1996 FROM 1:30 P.M. TO 5:00 P.M.

DATE:

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PHASE I PROGRAM GOALS

- PNGV APPLICATIONS EVALUATE LITHIUM ION TECHNOLOGY FOR USE UNDER HIGH POWER
- ESTABLISH A UNIT CELL CONFIGURATION FOR PHASE 2 MODULE SCALE UP DEMONSTRATION
- DELIVER FOUR PROTOTYPE CELLS FOR INDEPENDENT TESTING



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BATTERY MINIMUM REQUIREMENTS (SIMPLIFIED)

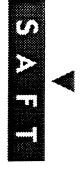
VOLUME POWER ON DISCHARGE (PULSE) **ENERGY** WEIGHT 65 kg 65 kw 3 kWh **40 LITERS**

REGENERATIVE POWER (PULSE) 70 kw

OPERATING VOLTAGE LIMITS 300 TO 400V

CYCLE LIFE (AT 3.3% DOD) 120,00

120,000 CYCLES



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APPROACH

FIRST STEP

- SYSTEMATIC STUDY OF FACTORS AFFECTING POWER
- **TESTING HARDWARE: "18650" CELLS**

SECOND STEP

SCALE UP EVALUATION